

Remarks

Pursuant to the Examiner's request, the pending claims are attached as an Appendix and a duplicate copy of this Response is provided on a 3½ inch IBM format floppy disk.

Claims 1-31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Clark et al. (U.S. Patent No. 5,361,356). This rejection is respectfully, but most strenuously, traversed and reconsideration thereof is requested.

Initially, applicants wish to note that the Clark et al. patent and the present application are commonly assigned to International Business Machines Corporation. In addition, Carl E. Clark is a common inventor to both the Clark et al. patent and the present application. An inventor Declaration in support of the discussion to follow can be provided should the Examiner deem it necessary to advance prosecution of this application.

In accordance with the pending independent claims (e.g., claim 1), applicants disclose a technique for producing a secure subspace for a transaction. This technique includes, from an operating system task, attaching a subtask that will restrict application addressing. This attaching includes defining a subspace address environment as home space within a dispatchable unit access list (DU-AL) associated with the subtask.

Applicants respectfully submit that Clark et al. does not anticipate their claimed invention. It is well settled that a claimed invention is not anticipated unless a single prior art reference discloses: (1) all the same elements of the claimed invention; (2) found in the same situation as the claimed invention; (3) united in the same way as the claimed invention; and (4), in order to perform the identical function of the present invention. In this instance, Clark et al. fails to disclose multiple elements of the present invention, and as a result does not anticipate, or even render obvious, applicants' invention.

Clark et al. disclose storage isolation with subspace-group facility. A Branch in Subspace Group (BSG) instruction is executed in problem state (for example, by an application program) for providing a fast instruction branch between address spaces within a restricted group of address spaces called a subspace group. This subspace group contains

two types of address spaces: a base space and any number of subspaces. This subspace group is set up in a control table associated with each dispatchable unit (DU).

Initially, applicants respectfully submit that the Clark et al. disclosure and applicants' claimed invention comprise clearly distinct processes. For example, applicants recite from an operating system task, attaching a subtask that will restrict application processing. This functionality is simply not described, suggested or implied by Clark et. al.

For an alleged teaching of this aspect of applicants' invention, the Office Action references page 8, lines 25-34, as well as page 7, lines 30-56 of the printout copy of Clark et. al. mailed with the Office Action. However, a careful reading of this material, fails to uncover any teaching or suggestion of a technique where a subtask is attached from an operating system task, let alone attaching a subtask that will restrict application addressing as recited by applicants. As used in the present application, attaching a subtask means creating a new dispatchable unit of execution, i.e., a subtask that is related to the operating system task. This is contrasted with the teachings of Clark et al. which only state at page 7, lines 30-56 that addressability for a program can be restricted. This concept of restricting addressability is separate and distinct from applicants' concept of attaching a new subtask (i.e., coding a new dispatchable unit of execution). The two simply are non-analogous and have no relation to one another. Because of this, applicants respectfully submit that the Office Action has misinterpreted the teachings of the Clark et al. patent, thus voiding the underlying basis for the rejection. Again, the functionality of applicants' recited invention begins with, from an operating system task, attaching a subtask that will restrict application addressing. There is no discussion in Clark et al. of attaching a new task or subtask, let alone a subtask as recited by applicants. Clark et al. simply create a temporary, limited addressability restriction on an existing task. Because the two are clearly distinct functions, applicants' respectfully submit that there is no anticipation of their invention based upon the teachings of Clark et al.

In addition, applicants' claimed invention modifies the content of control information on the subtask that is created. Specifically, applicants' claims recite that the attaching includes defining a subspace environment as home space within a dispatchable unit access

list (DU-AL) associated with the attached subtask. To the extent relevant, the Clark et al. patent takes an existing task and changes certain addressing information within that task's DU-AL. Applicants' claimed invention also changes control information within a DU-AL associated with a task, however, the information that is changed is different. As explained in the present application, the DU-AL contains a slot which is referred to as the home space for the task. This home space is conventionally defined per task as the entire address space. A careful reading of Clark et al. fails to uncover any discussion of the home space defined in particular, and thus, applicants respectfully submit that the normal address base identifier would be placed within the home space slot. In contrast, the present application recites limiting the defined home space to comprise a subspace address (i.e., a subspace identifier). Thus, the subtask that is created in applicants process is further limited by and isolated by qualifying its home space as a subspace address environment. In Clark et al., a group of address subspaces is defined and the subspaces are placed in the DU-AL but not in the home space of the DU-AL. Clark et al. always placed the conventional home space identifier in the home space. Applicants' have advanced the state-of-the-art in producing a secure subspace for a transaction by providing functionality which allows for attaching of a new subtask from the operating system task and then defining the home space of the dispatchable unit access list associated with that new subtask to comprise a subspace address environment. Clark et al. simply does not suggest or imply a similar process. In fact, the "home space" of the DU-AL is not even mentioned in page 13, lines 12-40 material of Clark et al. cited in the Office Action for this aspect of applicants invention, nor is the home space of the DU-AL mentioned anywhere in Clark et al.

Advantageously, the above-noted aspects of applicants recited invention provide a secure subspace for a transaction. As used in the present application, the "secure subspace" is intended to distinguish applicants recited result from that of Clark et al. In Clark et al., a subspace management capability is described which enables one to protect from inadvertent errors. The Clark et al. approach is a reliability enhancement mechanism, whereas the claimed invention protects against purposeful attempts to get around the system. This difference results from the different processes employed in the present application and the prior Clark et al. patent.

In view of the clear differences noted above, applicants' respectfully submit that their invention as claimed in independent claims 1, 11, 21 & 31 is not anticipated by, or even obvious over, the disclosed techniques of Clark et al. Therefore, reconsideration and withdrawal of the rejection to these claims is respectfully requested.

The dependent claims are believed allowable for the same reasons as the independent claims from which they directly or ultimately depend, as well as for their own additional characterizations.

For example, applicants recite in claim 2 that the attaching of a subtask comprises attaching a first subtask, and the subspace comprises a first subspace and a first application runs under the first subtask. The method further includes repeating the attaching to define a second subtask having a second subspace address environment as home space within a "DU-AL" associated with a second subtask, wherein a second application runs under the second subtask. In rejecting this subject matter, the Office Action alleges that creation of the subtask would be inherent in Clark et al., since Clark et al. teaches a system of restricting "programs that are in base space/subspace types of address bases in a single family group", page 7, lines 30-56. This inherency conclusion is most strenuously traversed.

The doctrine of inherency is well-settled in patent law, and is best described in an excerpt from Hansgird v. Kemmer, 26 C.C.P.A. 937, 102 F.2d 212, 40 U.S.P.Q. 665 (1939):

Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient. [citations omitted.] If, however, the disclosure [of the cited reference] is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient [to anticipate the claimed invention].

Id. at 940, 102 F.2d at 214, 40 U.S.P.Q. at 667; Stoller v. Ford Motor Co., 18 U.S.P.Q. 2d 1545, 1547 (Fed. Cir. 1991); Tyler Refrigeration v. Kysor Industrial Corporation, 227


Id. at 940, 102 F.2d at 214, 40 U.S.P.Q. at 667; Stoller v. Ford Motor Co., 18 U.S.P.Q. 2d 1545, 1547 (Fed. Cir. 1991); Tyler Refrigeration v. Kysor Industrial Corporation, 227 U.S.P.Q. 845, 847 (Fed. Cir. 1985); Ex parte Levy, 17 U.S.P.Q. 2d 1461, 1464 (B.P.A.I. 1990); In re Oelrich and Divigard, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981).

In Ex parte Levy, the court stated that “[i]n relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art.” Ex parte Levy, 17 U.S.P.Q. 2d at 1464 (lengthy citation omitted) (italics added). The Examiner has neither pointed to any passage in Clark et al. where attaching of one or more subtasks from an operating system task necessarily flows from the disclosure, nor set forth any technical reasoning to support an inherency rejection of the cited functional language. Absent such a showing, it is well established that claims are to be read in their entirety, including any functional limitations presented therein.

For all of the above reasons, applicants respectfully request reconsideration and allowance of all claims presented.

Applicants undersigned attorney is available should the Examiner wish to discuss this application further.

Respectfully submitted,



Kevin P. Radigan
Attorney for Applicants
Registration No.: 31,789

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HESLIN ROTHENBERG FARLEY & MESITI P.C.
5 Columbia Circle
Albany, New York 12203-5160
Telephone: (518) 452-5600
Facsimile: (518) 452-5579